



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/889,183	07/10/2001	Michael Steffen	72.049	8529

7590

09/24/2002

Timothy E Newholm  
Boyle Fredrickson Newholm Stein & Gratz  
250 Plaza Suite 1030  
250 East Wisconsin Avenue  
Milwaukee, WI 53202

EXAMINER

ADDIE, RAYMOND W

ART UNIT

PAPER NUMBER

3671

DATE MAILED: 09/24/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/889,183

Applicant(s)

STEFFEN, MICHAEL

Examiner

Raymond W. Addie

Art Unit

3671

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on 7/10/2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☐ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Waschulewski # 4,440,034 in view of Crum et al. # 6,276,230.

Waschulewski discloses a soil compacting device (10) comprising:

An oscillator that has at least 2, contra-rotating eccentric masses (20), whose phase relationship can be adjusted relative to one another by means of a positioning unit (36).

At least one moving operator element (60) to control the positioning unit (36).

Although Waschulewski does not specifically recite a "soil contact plate", it is obvious that all soil compacting devices, known as "vibrating machines" or "vibrators"; are well known to have a soil compacting/contacting plate. Which is different from other vibrating devices, such as a vibrating roller, also known as a steam roller.

What Waschulewski does not disclose is the use of a position sensor.

However, Crum et al. teaches a handle bar mounted controller for powered machinery, which is actuated to change the position of a movable element, further comprises: A position sensor (10) in the form of a resistive sensor or a Hall effect type potentiometer,

for determining the position of the operator element and to produce a signal to control a positioning unit. Said sensor arrangement permits the elimination of cables and linkages and offers a control that can interface directly with electronic engine controls.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to provide the soil compactor of Waschulewski, with the position sensor arrangement taught by Crum et al., in order to provide more precise control of the vibrating machine. See Waschulewski col. 6, line 6-col. 7, line 26; Crum et al. col. 4, line 14-col. 6, line 44.

2. Claims 1-5, 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stoecker # 3,832,080 in view of Ishibashi et al. # 6,448,768.

Stoecker discloses a soil compaction device comprising:

A soil contact plate (2).

An oscillator (3) that has at least 2 eccentric masses that counter rotate and whose phase relationship can be adjusted relative to one another by means of

A positioning unit (93, 111), such that excitation of the eccentric weights acts on the soil contact plate.

At least one moving operator element (16) to control the positioning unit (93, 111).

Stoecker does not disclose the use of a position sensor. However, Ishibashi et al. teaches a magnetic sensor with a signal processing circuit in the form of a resistive sensor, and a Hall effect IC sensor.

For use as a proximity switch, current sensors or encoders. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to provide the handle operated soil compactor of Stoecker, with a position sensor, in order to increase the accuracy and reliability of the positioning unit. See Stoecker col. 2, lines 52- 65, col. 5, line 20-col. 6, line 16; Ishibashi et al. col. 1, line 11-57, 7, line 45-col. 9, line 47.

In regards to Claim 2 Stoecker discloses the at least one moving operator element can be integral with a guide handle (16) and can be additionally provided as a plurality of kick plates, mounted near the bottom of the compactor. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to provide the compactor of Stoecker, with a position sensor, as taught by Ishibashi et al., at least on the guide handle (16), in order to increase the accuracy and reliability of the positioning unit. See Stoecker col. 5, lines 28-57, col. 7, lines 5-25.

In regards to Claims 3-5 Ishibashi et al. teaches the use of a sensor unit in the form of a Hall effect IC sensor, which comprises a plurality of resistors, in order to function as a proximity switch. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to provide the compactor of Stoecker, with the sensor unit of Ishibashi et al., in order to increase the accuracy and reliability of the positioning unit. See Ishibashi col. 4.

Art Unit: 3671

In regards to Claim 8 Stoecker discloses the operator element (16,165) can be tilted away from a spring effect, from a zero position. While in the zero position the overall force resulting from the rotating eccentric masses has no horizontal component. See Stoecker col. 6, line 46-col. 7, line 25.

3. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stoecker in view of Ishibashi et al., as applied to claim 1 above, and further in view of Artzberger # 4,779,418.

Stoecker in view of Ishibashi et al. discloses essentially all that is claimed, except for the use of a remote control. However, Artzberger '418 teaches it is desirable to provide a remote control unit, having a sending unit, which is capable of controlling the speed and direction of travel of a soil compacting machine. Therefore, it would have been obvious to provide the soil compactor of Stoecker in view of Ishibashi et al. with a remote control unit, as taught by Artzberger, in order to operate the compactor in a dangerous environment, such as a deep trench, from a remote location. See Artzberger col. 2-3.

4. Claims 1-6, 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Riedl # 5,010,778 in view of Crum et al. # 6,276,230.

Riedl discloses a soil compactor (1) comprising:

A soil contact plate (M).

An oscillator (2) that acts on the soil contact plate, has at least 2 eccentric masses (15) on each of 2 unbalanced shafts. Said at least 2 eccentric masses having an adjustable phase relationship for providing a "self-propelled" feature to the compactor.

A positioning unit (10/12) for adjusting the phase relationship of the at least 2 eccentric masses on each of said 2 unbalanced shafts.

At least one moving operator element, attached to a hydraulic control valve (18), illustrated in Fig. 1, to control the positioning unit (10/12).

What Riedl does not disclose is the use of a position sensor. However, Crum et al. teaches a handle bar mounted controller for powered machinery, which is actuated to change the position of a movable element, further comprises: A position sensor (10) in the form of a resistive sensor or a Hall effect type potentiometer, for determining the position of the operator element and to produce a signal to control a positioning unit. Said sensor arrangement permits the elimination of cables and linkages and offers a control that can interface directly with electronic engine controls.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to provide the soil compactor of Riedl, with the position sensor arrangement taught by Crum et al., in order to provide more precise control of the vibrating machine. Further, although Riedl illustrates but does not specifically disclose a moving operator element for controlling the positioning unit;

it would be well within the skill of one in the art to provide a soil compactor with a control lever, to control the positioning unit.

See Riedl Abstract, col. 2, lines 20-68, Col. 5; Crum et al. col. 4, line 14-col. 6, line 44.

In regards to Claims 2, 3, 5 Riedl discloses essentially all that is claimed, except for where the operator element is disposed upon the soil compactor. However, Crum et al. teaches it is desirable to provide an operators control lever/moving operator element and a proximity switch, in the form of resistive sensor, on a handle bar of a vehicle or machine, in order to provide the operator easy access to the control lever.

In regards to Claim 4 Crum et al. teaches the use of a Hall effect sensor, having a transmitting element connected to an operator element. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to provide the soil compactor of Riedl, with a Hall effect sensor, as taught by Crum et al., in order to increase the accuracy and reliability of the positioning unit.

In regards to Claim 6 Riedl discloses a soil compaction device having a fluid-activated piston/cylinder positioning unit (12) and an electromechanical valve (18) to control a fluid stream to the piston/cylinder unit. What Riedl does not disclose is controlling the positioning unit via a signal generated by a position sensor unit. However, Crum et al. teaches it is desirable to provide a position sensor, in the form of a Hall effect sensor,



Art Unit: 3671

for producing a signal that can control various engine components and/ or electronic engine controls. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to provide the soil compactor of Riedl, with a control lever position sensor, as taught by Crum et al., in order to increase accuracy and reliability of the control lever and the components actuated by said control lever.

In regards to Claim 8 Riedl discloses the rotating eccentric masses can be adjusted such that no net horizontal component is generated. Riedel further discloses the positioning unit and the phase relationship between the eccentric weights can be controlled by a 3 position electromechanical valve (18), corresponding to a forward, neutral and reverse direction of travel of the soil compactor. Hence, it is obvious that a operator's element must be provided and tilted in a direction away from a zero position (neutral position), in order to move the compactor either forward or backward.

Further, Crum et al. teaches a position sensor (105, 205) can be connected to an operator's element (100, 200) and include a spring to provide a return force, in order to bias a control lever/operator's element toward a neutral position. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to provide the soil compactor of Riedl, with a position sensor, as taught by Crum et al., in order to control the phase relationship of the eccentric weights, and to bias the phase relationship to have no net horizontal component. Thereby biasing the soil compactor in a neutral position.

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Riedl in view of Crum et al., as applied to claim 1 above, and further in view of Garnjost et al. # 5,347,884.

Riedl in view of Crum et al. discloses essentially all that is claimed, to include a group of rotating eccentric masses, which can have an adjustable phase relationship. What Riedl in view of Crum et al. do not disclose is providing a plurality of control levers to control the phase relationship of the rotating eccentrics. However, Garnjost et al. '884 teaches it is desirable to provide a plurality of control levers (24A,B,C,D,E,F) to control a plurality of rotating eccentric weights. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to provide the soil compactor of Riedl in view of Crum et al. with a plurality of control levers, as taught by Garnjost et al., in order to increase the accuracy of controlling the phase relationship between groups of rotating eccentrics. See Garnjost et al., Abstract, Col. 1, line 50-col. 4, line 52.

6. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Riedl in view of Crum et al., as applied to claim 1 above, and further in view of Artzberger # 4,779,418.

Riedl in view of Crum et al. discloses essentially all that is claimed, except for the use of a remote control.

However, Artzberger '418 teaches it is desirable to provide a remote control unit, having a sending unit, which is capable of controlling the speed and direction of travel of a soil compacting machine. Therefore, it would have been obvious to provide the soil compactor of Riedl in view of Crum et al. with a remote control unit, as taught by Artzberger, in order to operate the compactor in a dangerous environment, such as a deep trench, from a remote location. See Artzberger col. 2-3.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wadensten # 5,439,314 discloses a reversible, self-propelled plate compactor. Steffen # 6,435,767 discloses directional controls for a vibrating plate.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond Addie whose telephone number is (703) 305-0135. The examiner can normally be reached on Monday-Friday from 8:00 am to 2:00 pm, 6-8 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas B. Will, can be reached on (703) 308-3870. The fax phone number for this Group is (703) 305-8623.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1113.



**Thomas B. Will**  
**Supervisory Patent Examiner**  
**Group 3600**

**RWA**  
**9/18/2002**